

Work Order ID 123414

Thursday, August 07, 2014 11:15:01 AM

123414

Page 1

Item ID: D212-580-041

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Dual Mirror Installation

Start Date: 7/29/14 Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/07/14 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 14-08-08 Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D2161	B2
IIN-D212-580-1	B

DAG
27
9-89

100 Document Control
DOCUMENT CONTROL

0.00

100

DC

Doc.Control -USB or Paperwork

Memo

0.00

Photocopy bluefile and create labels as per PPP D212-580-041 CHG004

(4x)

DAS
46
9-89

FEB 23 2015

160 Pick Kit

0.00

160

Packaging

Packaging

Memo

0.00

4x

DAG
27
9-89
FEB 19 2015

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td style="width: 25%;">Skid-tube ☐</td> <td style="width: 25%;">Crosstube ☐</td> <td style="width: 25%;">Water Jet ☐</td> <td style="width: 25%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Large Fab ☐	Composite ☐	Supplier ☐																

Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Work Order ID 123414

123414

Page 2

Thursday, August 07, 2014 11:15:01 AM

Item ID: D212-580-041

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Dual Mirror Installation

Start Date: 7/29/14

Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/07/14

Req'd Qty: 4.00

4

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start

NR1

Stop

NR2

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

QC4- 100% Inspect kits for completeness

0.00

170

QC

Memo

0.00

Quality Control

(4x)

DAS
46
9-89

FEB 23 2015

180

Packaging

0.00

180

Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D212--580-041
Location: FC-010 PPP Rev: _____

(4x)

DAS
46
9-89

190

QC21- Final Inspection - Work Order Release

0.00

190

QC

Memo

0.00

Quality Control

15/2/25

MS-2-24

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width:100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐															
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Design									
Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Thursday, August 07, 2014 11:15:01 AM

123414

D212-580-041

Required Date: 8/07/14

Required Qty: 4.00

Comments: IPP Rev:H Removed D2013-3/-4 06-03-22 JLM
IPP REV:I AS PER ECN10-611 10-09-07 JLM VERIFIED
BY:DD IPP rev:J
10.11.22 AS PER ECN10-642 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3439-101		Manufactured	No			100	Each	38.0000	2	8			
D3439-101 Mirror Assembly 8" DAS 46 9-89													
Location FG 103697 ST381 108921 111611 119044 99854 Loc Qty 2 2 36 6 8 20 2 Loc Code 													
FEB 19 2015 DAS 27 9-89													
D2161-212		Manufactured	No			100	Each	0.0000	1	4			
D2161-212 Mirror Bracket, 212 DAS 46 9-89													
MS20426AD3-4 RIVET DAS 46 9-89													
Location ST315 125578 m127432 Loc Qty 5196 2678 2518 Loc Code 													
FEB 19 2015 DAS 27 9-89													
D20426AD3-4		Purchased	No			100	Each	5,196.000	8	32			
MS20426AD3-4 RIVET DAS 46 9-89													
Location ST315 125578 m127432 Loc Qty 5196 2678 2518 Loc Code 													
FEB 19 2015 DAS 27 9-89													

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube ☐</td> <td>Crosstube ☐</td> <td>Water Jet ☐</td> <td>Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>	Skid-tube ☐	Crosstube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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Root Cause	Date	Step	Qty	Description of work order update or non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
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Doc/Data									
Equip/Tooling									
Handling/Pre									
Material									
Operator									
Offset/Setup									
Process									
Supplier									
Training									
Transport									
Unapproved									

FAULT CATEGORY

Landing Gear ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Inspection Strip in Tube ☐ Marks/Chatter ☐ Turning Sequence ☐ Wave/Twist in Tube	General ☐ Bend ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Burrs ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Drawing ☐ Drill Holes ☐ Finish ☐ Fit/Function	☐ Folio/Program ☐ Grain ☐ Hardware ☐ Inspection Incomplete/Unqualified ☐ Instructions Incomplete/Unclear ☐ Misaligned/off center ☐ Mislabeled ☐ Misread ☐ Off-set ☐ Out of Calibration ☐ Out of Sequence	☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Positioned Wrong ☐ Power Loss/Surge ☐ Pressure/Forced ☐ Set-up ☐ Temperature/Cure ☐ Weld ☐ Wrong Stock Pulled ☐ Other
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Picklist Print

Thursday, August 07, 2014 11:15:01 AM

Page 2

Work Order ID: 123414

123414

Parent Item: D212-580-041

D212-580-041

Parent Item Name: Dual Mirror Installation

Start Date: 7/29/14

Required Date: 8/07/14

Start Qty: 4.00

Required Qty: 4.00

D4164-041

Manufactured No

100

Each

17.0000

4 16

D4164-041

Nut Plate Adapter Assembly

DAS
46
9-89

Location

Loc Qty

Loc Code

ST097

17

101955

5

109478

12

B7123501 16

FEB 19 2015

DAS
28
9-89

MS27039-1-08

Purchased

No

100

Each

1,998.000

4 16

MS27039-1-08

Screw

DAS
46
9-89

Location

Loc Qty

Loc Code

ST305

1998

m123265

4

m125654

3

m128636

1991

16

FEB 19 2015

DAS
28
9-89

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

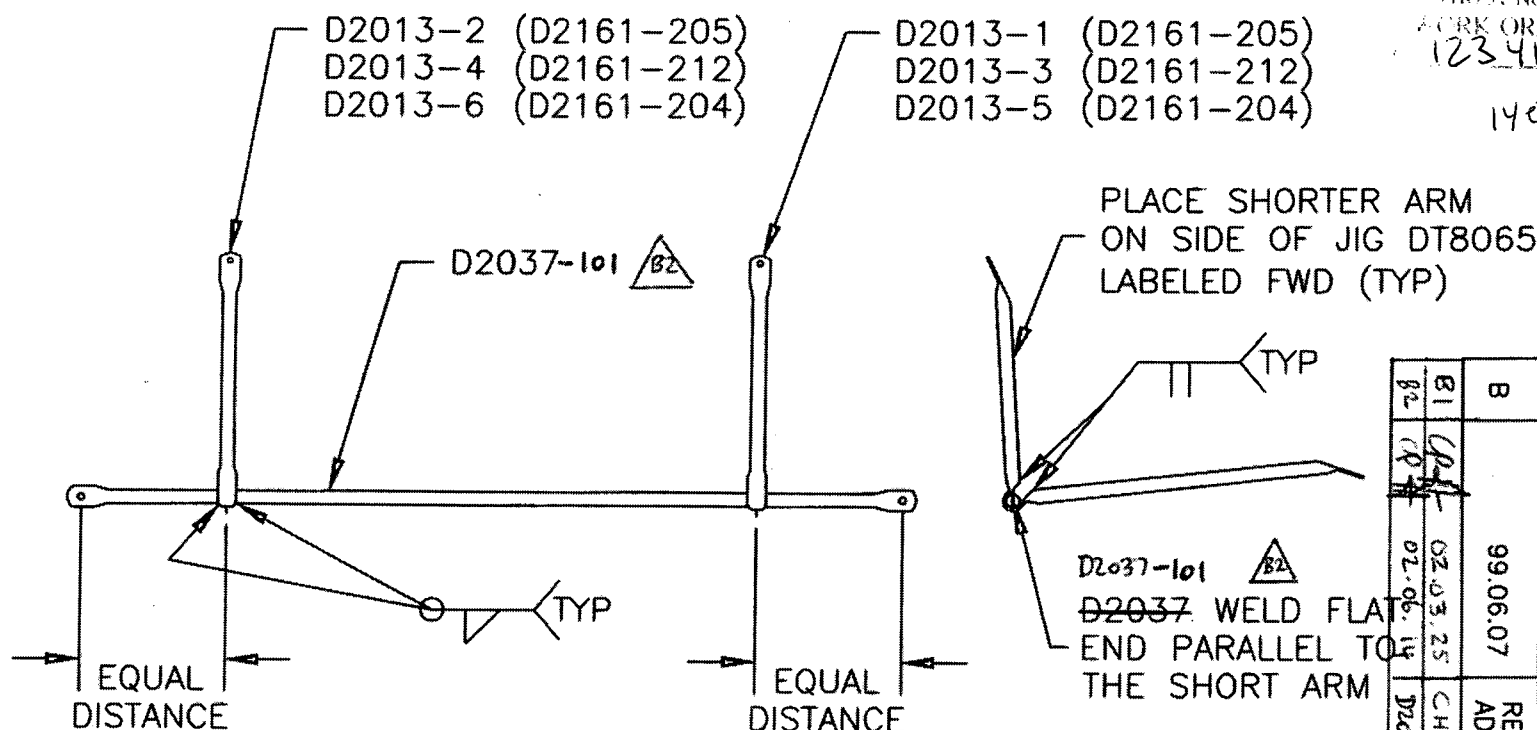
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Unapproved									

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--	--	---	--

1 OF COPY
 RETURN TO
 ENGINEERING
 CONTROLLED COPY
 SUBJECT TO AMENDMENT
 WORK ORDER
 123414 MJS
 1408-08



DESIGN	JB	DRAWN BY	DART AEROSPACE LTD HAMMERSBURY, ONTARIO, CANADA
CHECKED	JE	APPROVED	REV. B
DATE	99.06.07	TITLE	SHEET 1 OF 1
		MIRROR BRACKET	SCALE
		NEW ISSUE	NTS
		REDRAWN FOR CLARITY ADDED -204/-205/-212 DESIGNATIONS	
		CHANGE FINISH	
		D2037-101 W	

DETAIL OF D2161-204
 DETAIL OF D2161-205
 DETAIL OF D2161-212

NOTE: WELD ASSEMBLY
 USING JIG DT8065

FINISH: ~~POWDER COAT ASSEMBLY BLACK~~
~~CRINKLE (4.3.5.3) PER DART QSI 005 4.3~~
 POWDER COAT BLACK SANDTEX (4.3.5.7) PER
 DART QSI 005 4.3 (B)

RELEASED
 H KE 99.06.10

REFERENCE ONLY

DART AEROSPACE LTD.

IIN-D212-580-1

4.0 PARTS LIST

FEB 23 2015

DAS
46
9-89

Page 10 of 10

Qty 562 -041	Qty 563 -041	Qty 580 -041	Part Number	Description
X			D204-562-041	DUAL MIRROR INSTALLATION
	X		D205-563-041	DUAL MIRROR INSTALLATION
		X	D212-580-041	DUAL MIRROR INSTALLATION
2	2	2	D3439-101	MIRROR (WAS D2011-103)
1			D2161-204	MIRROR BRACKET
	1		D2161-205	MIRROR BRACKET
		1	D2161-212	MIRROR BRACKET
*2	*2	*2	D3015-3	LOCKNUT
*2	*2	*2	AN960JD516	WASHER
		8	MS20426AD3-4	RIVET, COUNTERSUNK
		4	D4164-041	NUT PLATE ASSEMBLY
4	4	4	MS27039-1-08	SCREW

* PARTS ARE INCLUDED WITH D3439-101 MIRROR

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Revision: B

Date: 12.06.13

Work Order ID 123414

Thursday, August 07, 2014 11:15:01 AM

123414

Page 1

Item ID: D212-580-041

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Dual Mirror Installation

Stop ***NS2***

Start Date: 7/29/14 Start Qty: 4.00

4

Cust Item ID:

Required Date: 8/07/14 Req'd Qty: 4.00

4

Customer:

Reference:

Approvals: Process Plan: MLJ Date: 14-08-08 Tooling: _____ Date: _____Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2161	B2								
IIN-D212-580-1	B								

100 Document Control 0.00
100 DOCUMENT CONTROL
DC Memo 0.00
Doc.Control -USB or Paperwork Photocopy bluefile and create labels as per PPP D212-580-041 CHG004

MLJ 15-02-23
C

160 Pick Kit 0.00
160
Packaging Memo 0.00
Packaging

4X
FEB 19 2015